

Development of the High Density Shashlik EMCal.

Sergey Kuleshov on behalf of the BNL-UTFSM-IHEP-MEPHI-ISU group



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Theory Meets Experiment at LHC

The schedule of the work (3 years):

Production of the single tower technological prototype:

July-September 2017

Production of 3x3 towers rectangular prototype:

July-December 2017

Production of hodoscopes:

July-December 2017

Production of read out for hodoscopes

July-October 2017

Production or purchase of the readout for calorimeters

July-November 2017

Production of the rectangular (nonpointing) prototype

February 2018

Assembling and testing cosmic ray setup

January 2018

Cosmic ray test of technological prototype

February 2018

Cosmic ray test of rectangular prototype

March-April 2018

Production of the 2-D pointing) prototype

May 2018

Cosmic ray test of the projective prototype

June-July 2018

Delivery of prototypes to BNL

August 2018

Test beam

2018

and 2019

UTFSM has began the project in June 2017.

The collaborating groups assumed that project funds from BNL will be available starting October 2017

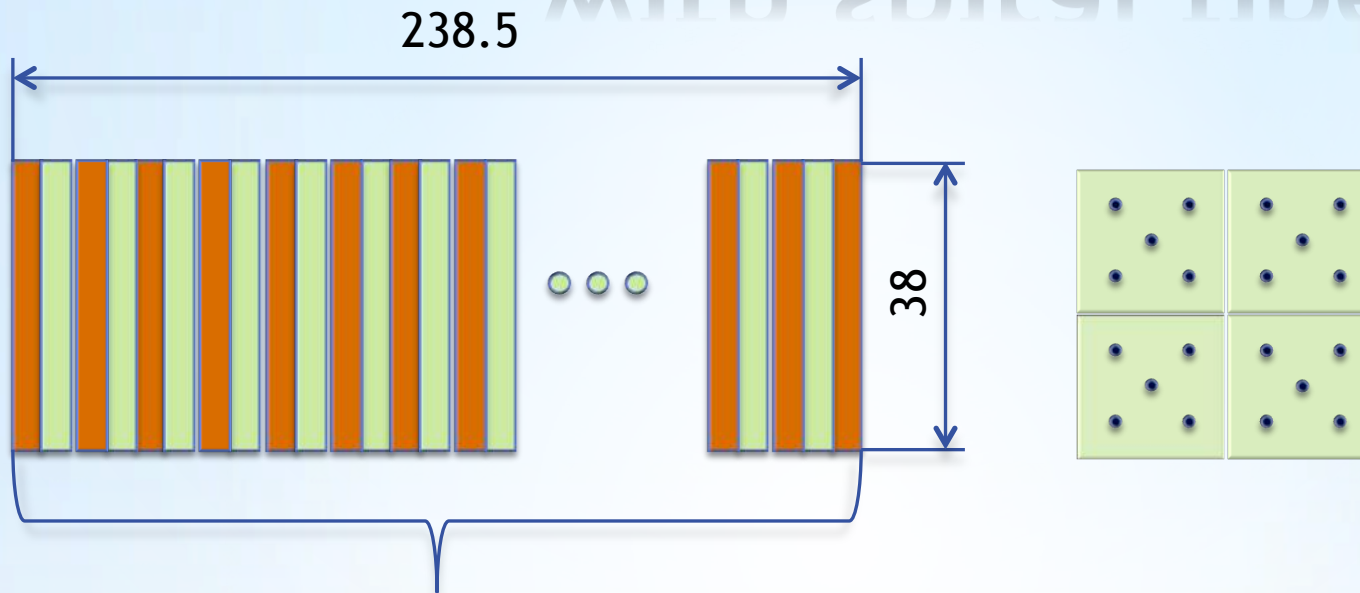
Our group supposed that the finding will be 50/50 from BNL and UTFSM. UTFSM group had to begin the work before getting any information from EIC R&D. I must provide the plan of work of my laboratory for 2018 year. And still I don't understand the status of the project.



- ✓ The scintillator plastics for shashlik (with spiral fibers) calorimeters with $38 \times 38 \times 1.5 \text{ mm}^3$ size were bought and delivered to UTFSM
- ✓ 400 $38 \times 38 \times 0.2 \text{ mm}^3$ W80Cu20 plates were bought and delivered to UTFSM
- ✓ 900 $38 \times 38 \times 1.5 \text{ mm}^3$ W80Cu20 plates were bought and will be delivered to UTFSM during this week
- ✓ Scintillator strips hodoscope with $32 \times 32 \text{ mm}^2$ sensitive area and 1 mm space resolution was designed, constructed and tested with beam H4 (SPS, CERN) during September run of NA64. It will be delivered to Chile in the middle of October.
- ✓ My postdoc, Pablo Ulloa, worked on the project (30% time) from July.
- ✓ Mechanical engineer, Eliás Rozas, worked on the project (50% time) from June.

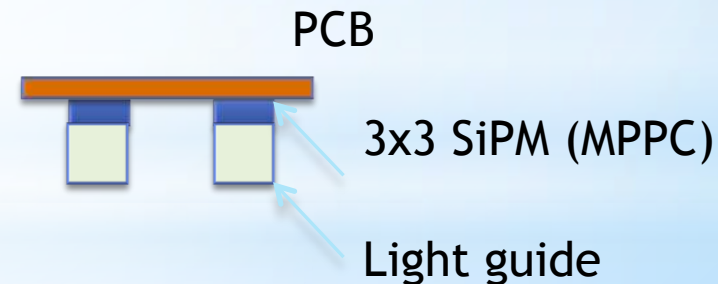
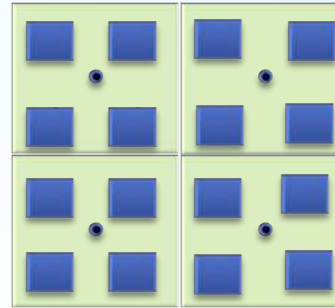
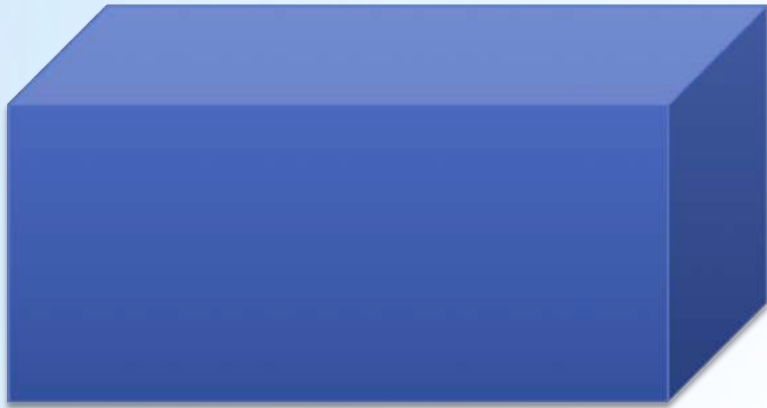
**Activities of UTFSM group during
June-October period of 2017**

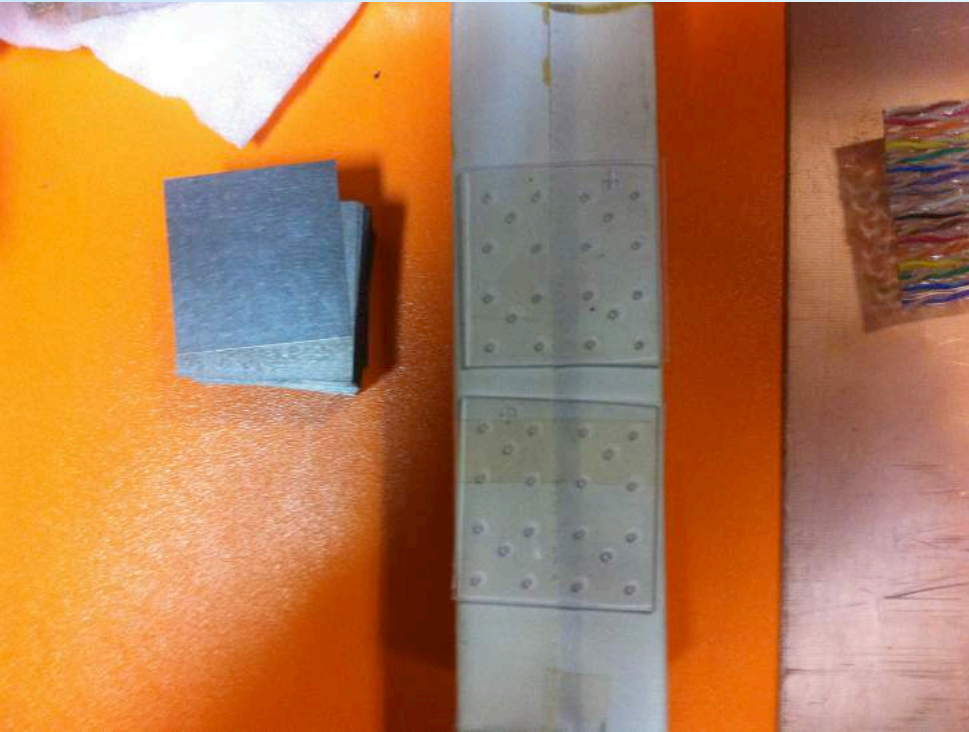
“Sashlik” calorimeter with spiral fibers



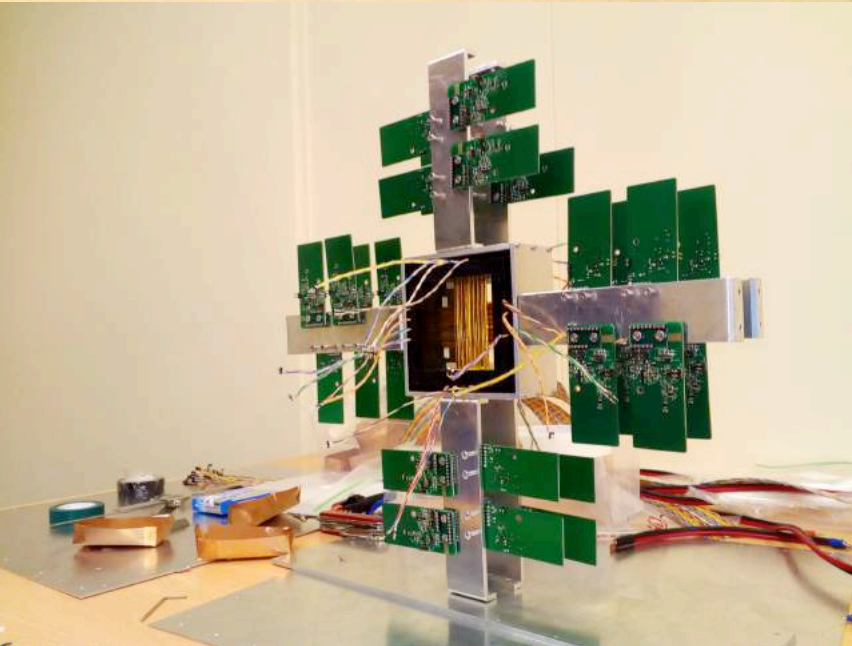
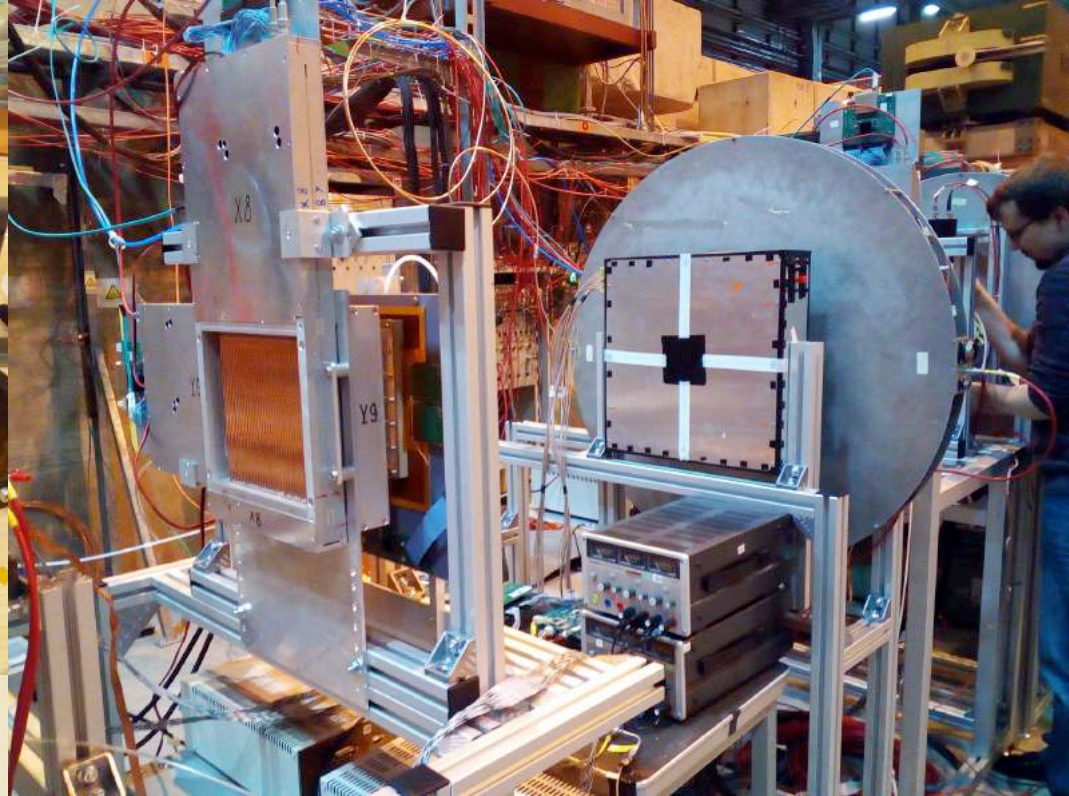
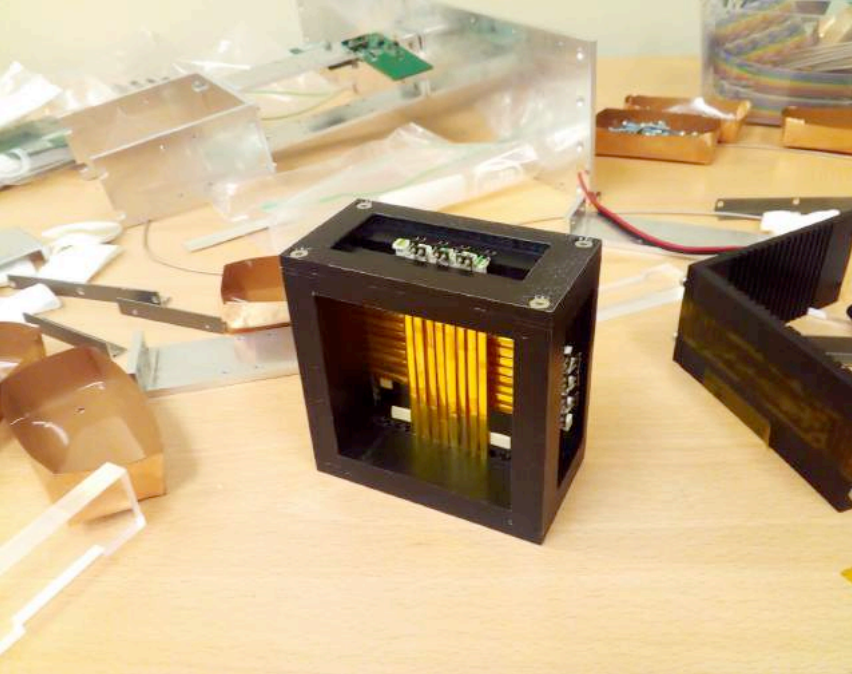
80 W80Cu20 1.5 mm plates and 79 1.5 mm scintillator plastics ()
Full thickness is 238.5 mm.
It is 29 X0.

Read out: 16 MPPC for 16 fibers without any fibers bundle.





W80Cu20 plates and
scintillator plastics



Hodoscope

A report provided by the mechanical engineer Elías Rozas to me a week ago.

Update Shashlik

By Elías Rozas



SILAB
SILICON LABS

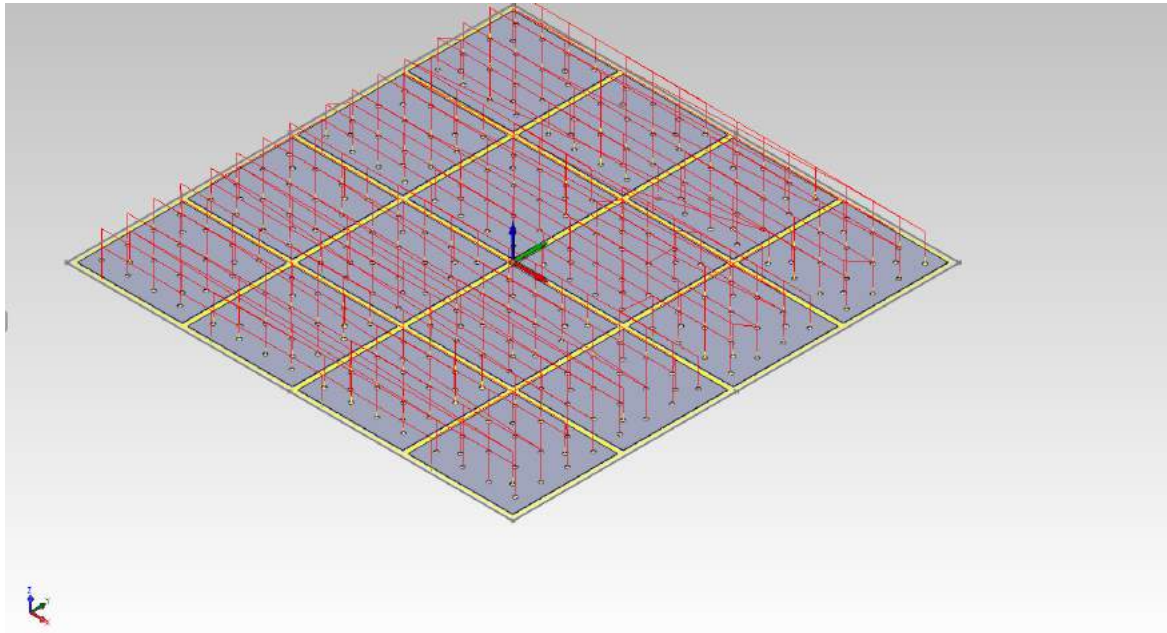
Glue White Vynil

- ▶ Starting to glue the vynil on the surface of W80Cu20



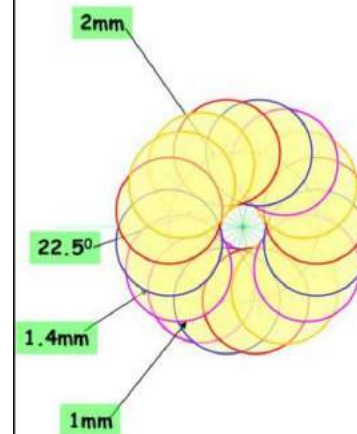
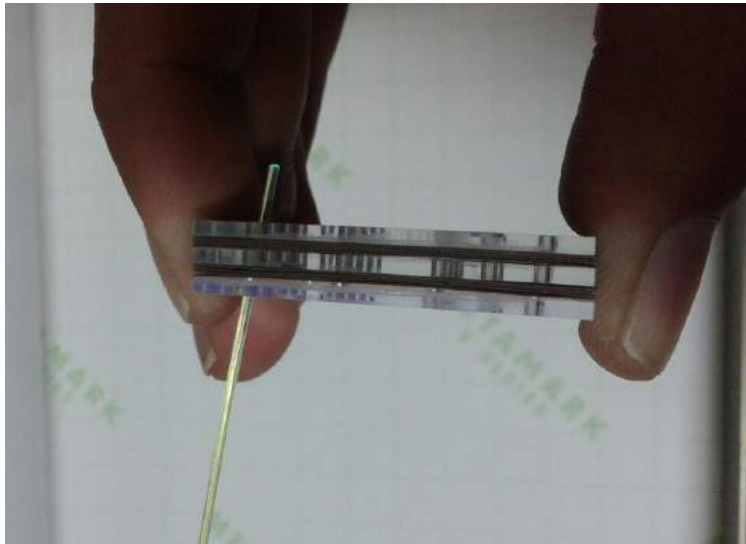
Programing of W80Cu20 plates

- ▶ 4 Diferent Types of plates
- ▶ CAD/CAM Ready to machining



Shashlik

- ▶ As i told, finelly i found the match strategy of spiral shashlik.

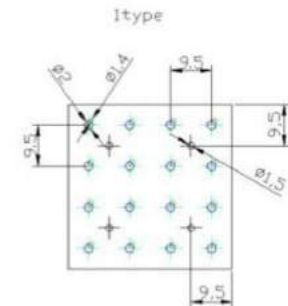


Calo meeting, 26 October 2010

Spiral Shashlik



- Sampling - 0.8 mm lead and 1.5 mm scintillator; 4x4 fibers, 4 steel rods; 155 layers
- 4 types of scintillators and 2 types of lead plates



V.Polyakov, Shashlik beam tests

New Material

- ▶ The new tiles (1,5 mm thickness) is arrive to Chile today
- ▶ I will hope to received this tiles tomorrow or Wednesday.
- ▶ I am waiting now to start to drilling the tiles, Victor and Sebastia and works now in sTGC Production.